

Challenge I: Hawai'i to Rapa Nui

How will you stay on course?



Crew Name: Krew! (Karpf Home school group) _____

Vessel Name: The Sadness of the Sea _____

Date/season of embarkation: May 16 _____

Distance of voyage in nautical miles: 4275 Nm _____

Expected length of journey: 62.5 -72.5 days _____

General description of route:

Part 1: Sail from Hawaii on May 16 to the Marquesas Islands (estimated travel time 23.5 days) then stop for 7 days to rest and resupply.

Part 2: Leave the Marquesas Islands June 15 and sail to the Pitcairn Islands (estimated travel time 15 days) and then stop for 7 days to rest and resupply.

Part 3: We are going to leave the Pitcairn Islands on July 7 and head to East to Rapa Nui for 8 days. Then for the rest of the time we are going to use a zigzagging pattern with lots of small turns until we find Rapa Nui.

Methods of navigation:

Part 1:

Leave Hilo (N 19 W 154) on May 16, heading SE using the NE trade winds to help until latitude of about 9N where the heading changes to S. Continue until the doldrums occur (around the equator) when we will head SE. At this time, Polaris will be getting lower on the horizon as we sail closer to the equator.

The constellations we will be following in the Southern hemisphere are "the maiden" (mainly Spica) and Scorpius (mainly Antares). After 18 days, we are looking carefully for currents, clouds and birds that would indicate islands. By the 23 third day a conservative estimate for 2218 miles (1928 NM) trip, we will have reached our destination.

On Hiva Oa (S9 45 W 139), Spica would be directly overhead (zenith star) at 2030 on June 8.

Part 2:

Seven days later, after we finish resupplying we will leave the Marquesas Islands (S 9 W 139) on June 15 on a SE course avoiding the atolls and reefs. For this 1500 mile (1304 Nm) voyage we are estimating a conservative 15 days which puts our arrival at Pitcairn (S 25 W 130) on June 30. Antares, the red star, in the constellation Scorpius is the zenith star at 2230. Of course, we will be looking for large groups of birds and bird flight patterns. We will also be looking for stationary clouds that could indicate land.

Part 3: After 7 days resupply and rest, we leave Pitcairn (S 25 W 130) on July 7. We will sail east tacking against the wind. After about 10 to 12 days, we will tack in a close zigzag search pattern looking for signs of land, such as cumulus clouds, birds particularly the White Tern. Another sign of land would be a change in the swell patterns. We must sail within 46 miles of Rapa Nui to see it on a clear day. On the 10th day Antares, in Scorpius, is Zenith over Rapa Nui at 22:04. This will help us determine the islands position. Our conservative estimate is 10 to 20 days to get to from Pitcairn to Rapa Nui (a 1200 mile, 1043 Nm trip).

Other considerations:

We will get food and water at each of the Islands that we stop at. We can go fishing and get extra water when it rains.

Hurricane season in the Northern Hemisphere is May to Nov with peak months being August- September. By leaving in May, we avoid the peak Hurricane season and optimize the regular summer trade winds blowing the direction we want.

Hurricane season in the Southern Hemisphere in Nov – May with the peak months being January – March. We should be able to avoid this entire Hurricane season with our planned dates.

